Nationwide Health Information Network (NHIN) Interim Validation Plan

Version: 1.0

Office of the National Coordinator

December 6, 2009

Purpose and Scope

This NHIN Participant Limited Production Validation Procedure document describes the approach and processes to be used to perform validation of Limited Production Pilots by the Nationwide Health Information Network (NHIN) in the period before the NHIN 1.0 specification sets are released. It is expected that this type of pre-1.0 validation be limited, and be conducted only with approval and close participation of the NHIN team.

The purpose of this document is to be a reference that describes the tests, tools, roles and activities related to the interim validation process. This process will be phased out when the program exits the interim phase, in early 2010, and will be supplanted by the validation process in support of the 1.0 specifications.

1. Overview of this Document

This document describes the validation approach that will be used by the NHIN Implementation Team in collaboration with a NHIN Participant Limited Production Project (henceforth "the candidate"). This document includes the following sections:

- **Section 2 Scope of Validation** – Describes the validation.

- **Section 3 NHIN Pilot Production Tests** – Describes the test objectives, procedures and responsibilities, methods and tools to be used to conduct testing.

- **Section 4 Validation Process for Limited Production Projects** – Describes the steps, roles and activities to be performed when executing this validation procedure.

- **Appendix** – Attached to this procedure are compressed folders with documents that detail the test cases to be completed for validation.

2. Scope of Validation

The overarching intent of the NHIN validation plan is to describe the general principles and processes guiding validation for a candidate organization to participate in the NHIN. The reason a validation process is in place is to verify that NHIN participants can exchange information securely, addressing privacy and interoperability with other NHIN participants, and that the information exchanged over the NHIN is of value and use to participants.

NHIN validation does not encompass validation of the operations of organizations seeking to participate on the NHIN, and is not an organizational certification, nor a certification of organizations participating in the exchange of health information.

Technical qualification

A minimum set of NHIN specifications must be supported by all NHIN candidates. The core services, which must be implemented as the basis of the validation sets, are defined below.

Core NHIN Services

The set of services below must be supported by <u>all</u> candidates for NHIN validation.

- Messaging Platform Service

- Authorization Framework Service

- Service Registry Service

- Optional: Access Consent Policies Service

To validate as a NHIN participant, a candidate must support Core NHIN Services <u>and</u> either NHIN Patient & Document Services, the NHIN Health Information Event Messaging Service, or both.

NHIN Patient & Document Services

In addition to the base NHIN services, validation candidates can support NHIN patient and document services, as a service initiator, a service responder, or preferably both.

	NHIN Patient & Document Services Initiator (core NHIN services plus the below)	**NHIN Patient & Document Services Responder** (core NHIN services plus the below)
NHIN Patient & Document Service Set Patient Discovery Query for Documents Retrieve Document **NHIN Core Foundational Services** Messaging Platform Authorization Framework Service Registry Access Consent Policies (optional) Figure 1 - In addition to the base NHIN services, validation candidates can support the NHIN Patient & Document Service Set, as a service initiator, a service responder, or preferably both.	• Patient Discovery Service • Query for Document Service • Retrieve Document Service	• Patient Discovery Service • Query for Document Service • Retrieve Document Service

NHIN Health Information Event Messaging Service

In addition to the base NHIN services, validation candidates can support the NHIN health information event service, as a service initiator, a service responder, or preferably both.

	Health Information Event Service Initiator (core NHIN services plus the below)	**Health Information Event Service Responder** (core NHIN services plus the below)
NHIN Health Information Event Messaging Service Set — Patient Discovery; Health Information Event Messaging Service — **NHIN Core Foundational Services** — Messaging Platform; Authorization Framework; Service Registry; Access Consent Policies (optional) Figure 2 - In addition to the base NHIN services, validation candidates can support the NHIN Health Information Event Messaging Service Set, as a service initiator, a service responder, or preferably both	• HIEM Service	• HIEM Service

Service Set Combinations and Versioning

Candidates can be validated in either or both NIHN Patient & Document Services and NHIN Health Information Event Service, as pictured below.
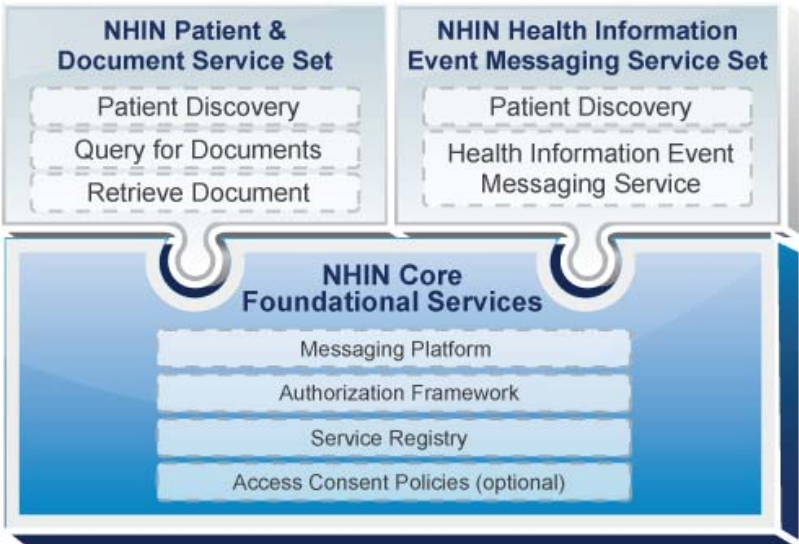

Figure 3 - Candidates can be validated in either or both NIHN Patient & Document Services and in NHIN Health Information Event Service.

Candidates seeking interim validation will be validated on the version of the specifications they implement. The interim validation process described herein supports only the VA, CDC, DOD, and Kaiser Permanente in their pursuit of pilot production. All other organizations seeking to participate in the NHIN must undergo the new baseline validation process beginning January 2010.

The candidate organization must provide proof of execution of the NHIN test cases, which will be reviewed by the NHIN technical team for conformance and confirmation of expected results. The tests are defined so that they can confirm that the candidate's solution meets technical requirements to participate on the NHIN, and are described below.

3. NHIN Pilot Production Tests

This section describes the testing to be performed by the candidate. This description includes the overall objectives, procedures and responsibilities, methods and tools.

Objectives

Interoperability testing for the candidate will focus on peer-to-peer testing of the candidate's system against a reference implementation using the same version of specifications as being employed by the candidate. The interoperability validation will primarily deal with validating that the candidate system demonstrates the ability to interoperate with a reference implementation of the same version of the specs as the candidate. The reference implementation is provided by FHA/Connect.

Procedures and Responsibilities

Interoperability testing will be accomplished by performing the tests detailed in the Appendix of this document, capturing the relevant logs and screen shots necessary to enable review of said evidence by the NHIN Technical and Implementation Teams. The NHIN teams will review the produced evidence, consulting with NIST expert advisors as appropriate, and provide the outcome of this review to the NHIN Coordinating Committee. The interoperability results will be provided to the Coordinating Committee in conjunction with the results of conformance testing.

Methods and Tools

Interoperability testing will be based on the same set of interoperability test cases established by the NHIN program during the November 2008 Testing Event. A series of comprehensive tests were established for this event by the NHIN Testing Workgroup.

The interoperability test cases are located in the Appendix of this document. Based on the specifications being employed by the candidate, the NHIN Implementation Team will identify the appropriate test cases that are deemed to provide complete coverage of the version of the specifications being used by the candidate.

The Federal Health Architecture (FHA) team has volunteered to support specific candidates of interim validation by hosting the interoperability reference implementation and providing system logs from testing performed against the reference implementation (typically, version 2.1 or 2.2 of Connect). This support extends to the known interim validation candidates, and may not extend to additional interim candidates (which are discouraged from pursuing interim validation general, in favor of NHIN validation in early 2010).

4. Validation Steps for Limited Production Projects

The following outline describes the steps to be performed by the NHIN Implementation Team, which will act as a validation representative for the candidate. Where appropriate, the NHIN Team will work directly with the FHA staff providing testing support to the candidate to perform this validation procedure:

1. The Implementation Team member works with the candidate organization's team and the FHA/Connect partners to perform the steps prescribed in section 3.0, NHIN Pilot Production Tests.

2. The candidate organization submits to the Implementation Team member the logs and other appropriate evidence produced during testing – providing support as required and clarifying any questions encountered while performing the tests.

3. The Implementation Team member will coordinate meeting with the NHIN technical team to evaluate the conformance and interoperability results generated in steps 1 & 2 above.

Based on this review, the Implementation Team Member will provide a summary of the NHIN technical team's findings, along with all evidence reviewed, to the Coordinating Committee for deliberation. The Implementation Team Member will be responsible for communicating the Coordinating Committee Meeting schedule and shall notify the candidate of the outcome of their deliberations in a timely manner.

5. Appendix

This section contains the test cases that will be used by limited production pilots for interim NHIN validation. These attachments describe the test cases to be performed and evidence captured for review, with input from the NIST team, for validation purposes.

Note: the test cases are currently being finalized by the NHIN testing team, NHIN technical team, FHA/Connect team, and partner organizations. These collaborators will confirm the appropriate tests before validation occurs.

Terminology Used

For NHIN Participant Limited Production Projects, the NHIN Implementation team will work closely with designated members of the NHIN Participant Limited Production Project to execute this Validation Procedure. To facilitate this collaboration, the following terms have been established:

NHIN Participant Limited Production Project – For the purposes of this validation procedure, NHIN Participant Limited Production Projects are any NHIN related projects that are supported by the NHIN Implementation Team where validation is to be performed prior to the release of the Validation Framework R1.0 being developed by the program in association with the Core Baseline Services Release 1.0.

Candidate – For the purposes of this validation procedure, NHIN Participant Limited Production Projects are any NHIN related projects that are supported by the NHIN Implementation Team where validation is to be performed prior to the release of the Validation Framework R1.0 being developed by the program in association with the Core Baseline Services Release 1.0.

NHIN Participant – An organization engaged in a Limited Production Project, or already exchanging health information over the NHIN, that (i) meets the requirements for participation in the NHIN as contained in the NHIN Operating Policies and Procedures; and (ii) is a signatory to the DURSA.

Conformance Testing – Conformance testing validates single systems to single standards. This testing primarily deals with insuring that systems correctly encode the syntax and structure of a given data standard in the physical files or transactions that a system produces and receives.

Interoperability Testing – Interoperability testing validates that two or more systems that implement a particular standard, or set of standards, can communicate with each other.

Test Scenario – A set of test cases that ensures that all the conditions related to business process flows and system designs are tested in its entirety.

Test Data – A set of data that is used as input values for test execution purposes. The test data utilized within the NHIN project will be synthetic data and could contain both valid as well as invalid values.

Test Tools – A set of software tools that will be used to maintain and speed the execution and tracking of test scenarios, and to help and support the testing process.

Document History

Date	Version	Description	Name
08/XX/2009	0.9	Initial draft.	Aaron Seib
09/28/2009	0.93	Merge with relevant content from Trial Implementation testing plan.	Adrian Anderson
09/30/2009	0.94	Scan/edit for clarity; formatting spruce-up, etc.	Jeff Helman
10/01/2009	0.95	Revisions based on inputs from Doug Hill	Aaron Seib
10/15/2009	0.96	General revisions	Leslie Power
10/29/2009	0.97	Added section on service sets; incorporated feedback from FHA team members	Leslie Power
11/13/2009	0.98	Updated from feedback from FHA and NHIN technical teams.	Leslie Power
11/16/2009	0.99	Incorporated updates from NHIN Validation Plan (typos and minor corrections).	Leslie Power
12/6/2009	1.0	Incorporated updates from NHIN Coordinating Committee, specifically naming the qualified participants that are covered by this validation plan.	